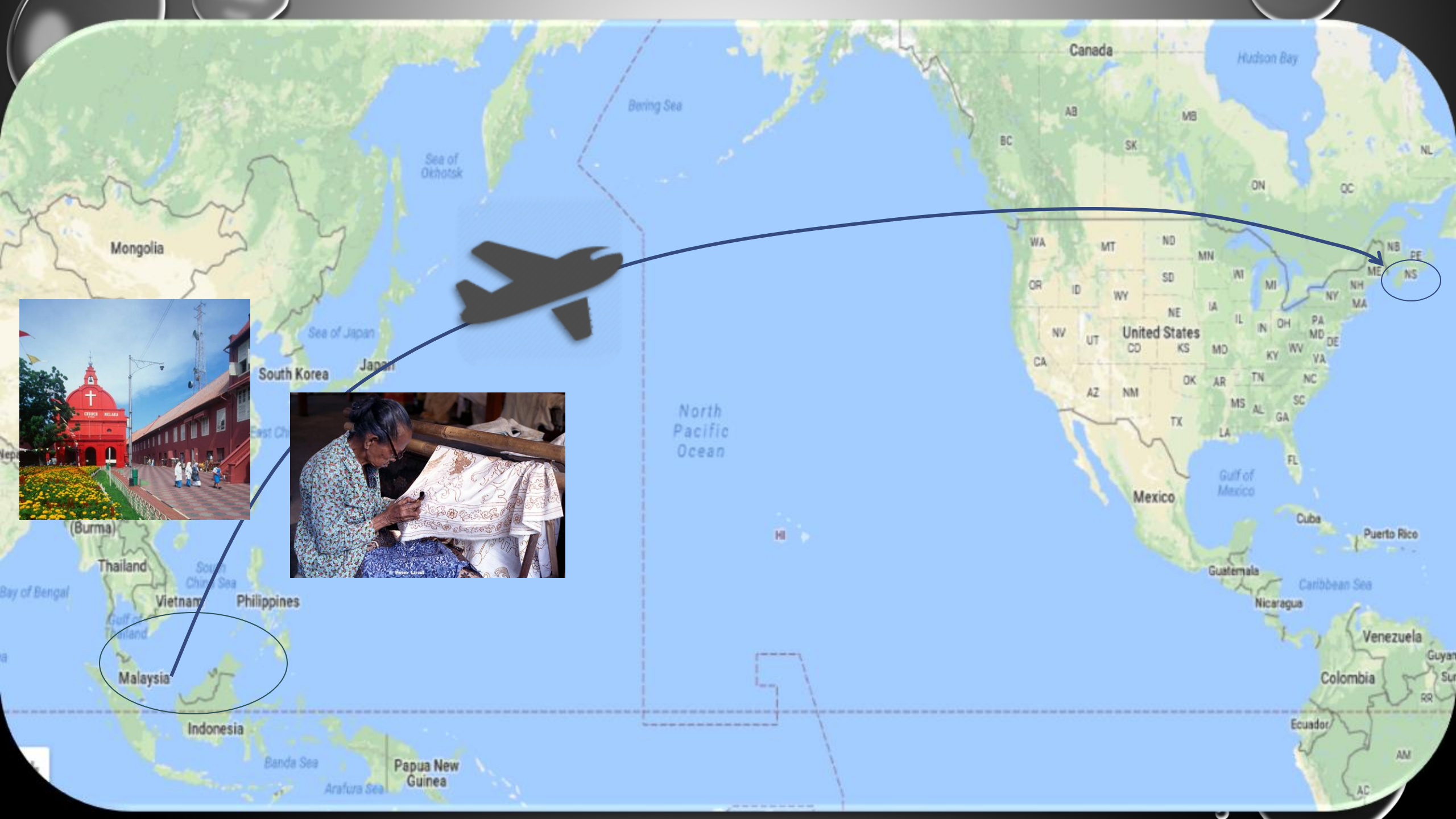


Are You Game For This? Assessing Local Stakeholders' Perceptions On Conservation and Intention to Participate In A Proposed Dugong Protected Area In Johor, Malaysia

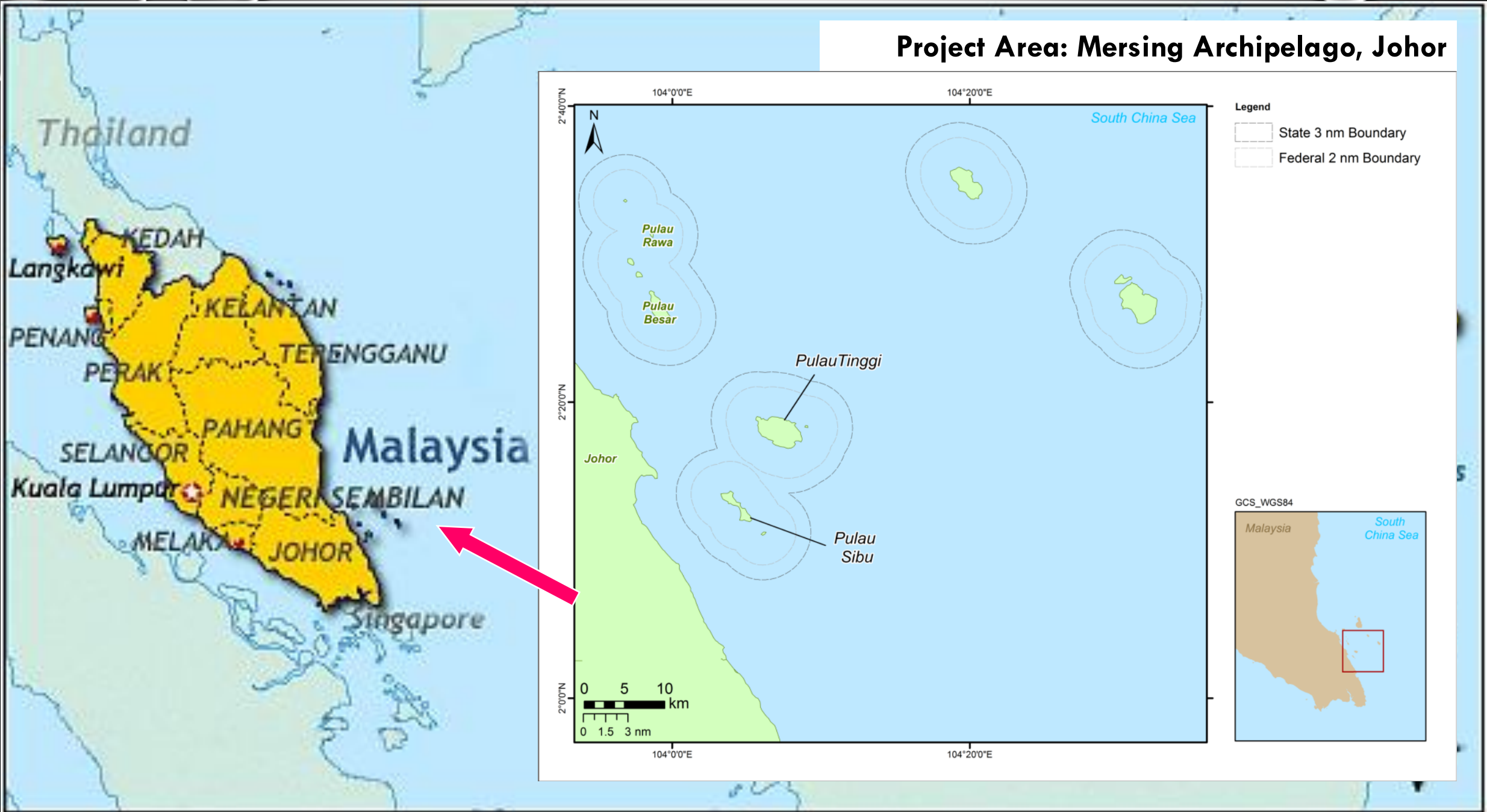
Sok Fen LEE, A. SHUIB, J.H. FAIRUL IZMAL, Louisa S. PONNAMPALAM

*International Conference
Communities, Conservation and Livelihoods
May 28th -30th, 2018
Saint Mary's University , Halifax, NS.*

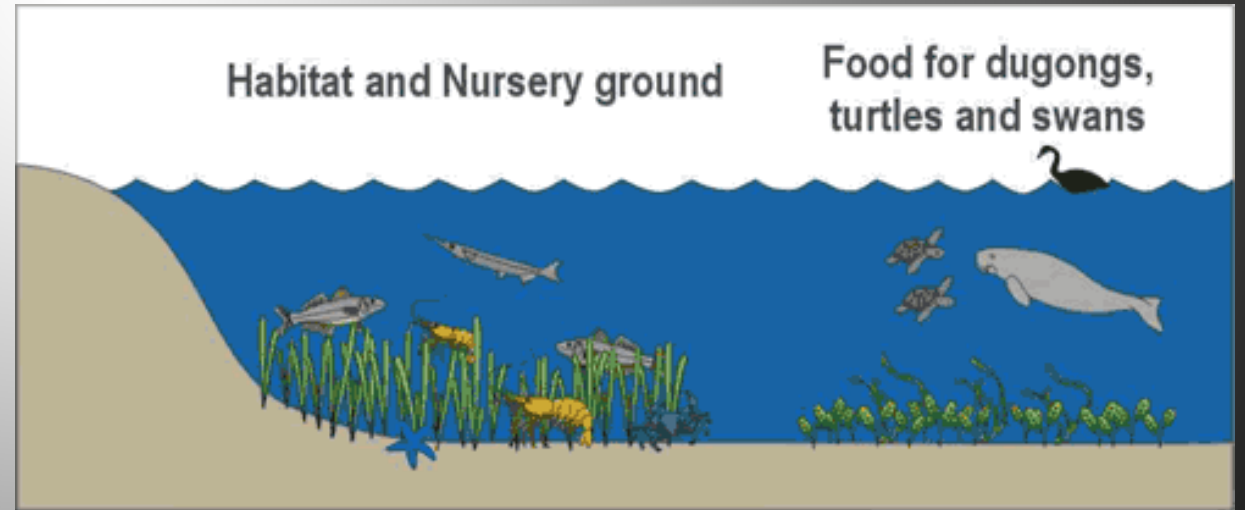
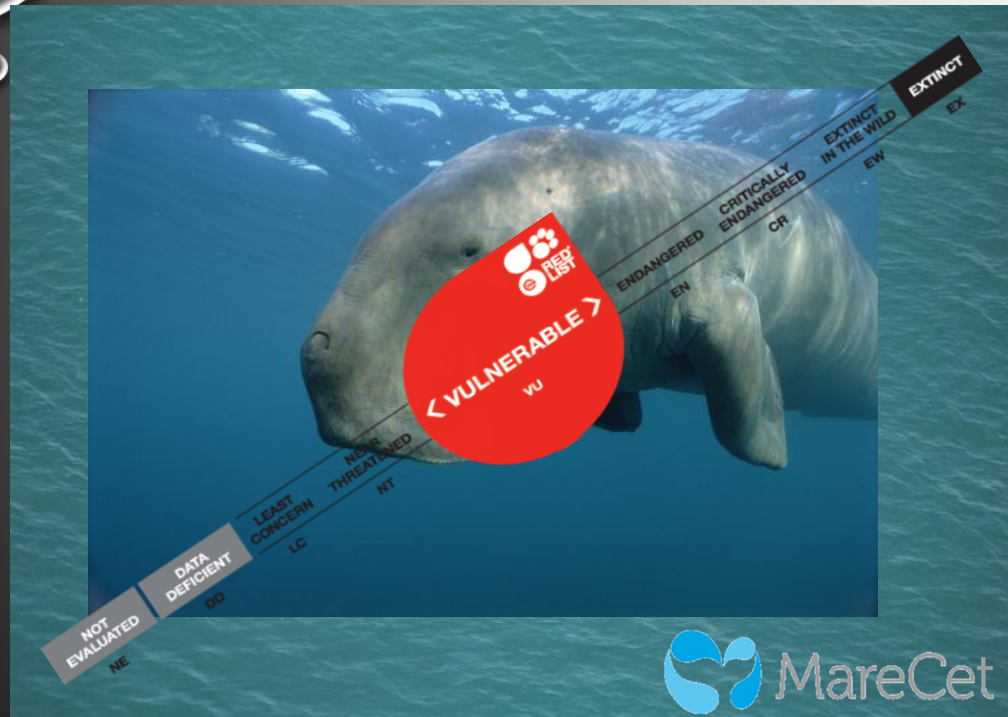




Project Area: Mersing Archipelago, Johor



Conservation challenges: The dugongs and the seagrass



- Some believe that dugongs were the inspiration for ancient seafaring tales of mermaids and sirens.
- Marsh, H. & Sobotzick, S. 2015. *Dugong dugon*. The IUCN Red List of Threatened Species
- their habitats, seagrass meadow also significant.
- **Prior to 2014, most of the information of the dugongs comes from incidental sightings, and anecdotal reports from fishermen.**

Reported **DUGONG DEATHS** in Johor, Malaysia

2015



Sibu island

2016



Tinggi island



Gelang Petah, Johor Straits



Johor Straits



Tanjung Logok

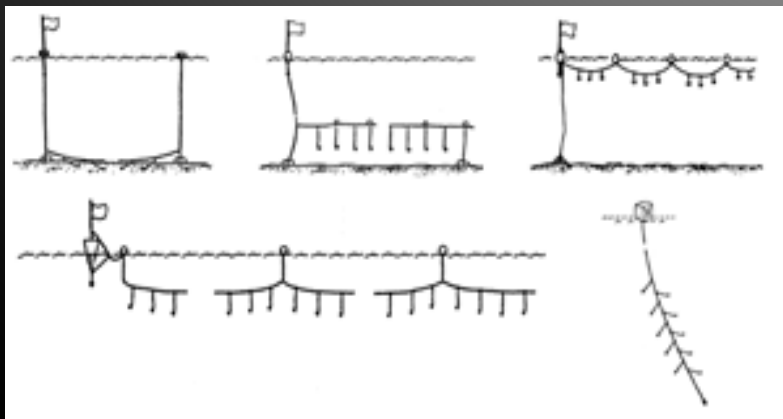
and **MORE**.....

ISSUE THAT NEEDS ATTENTION

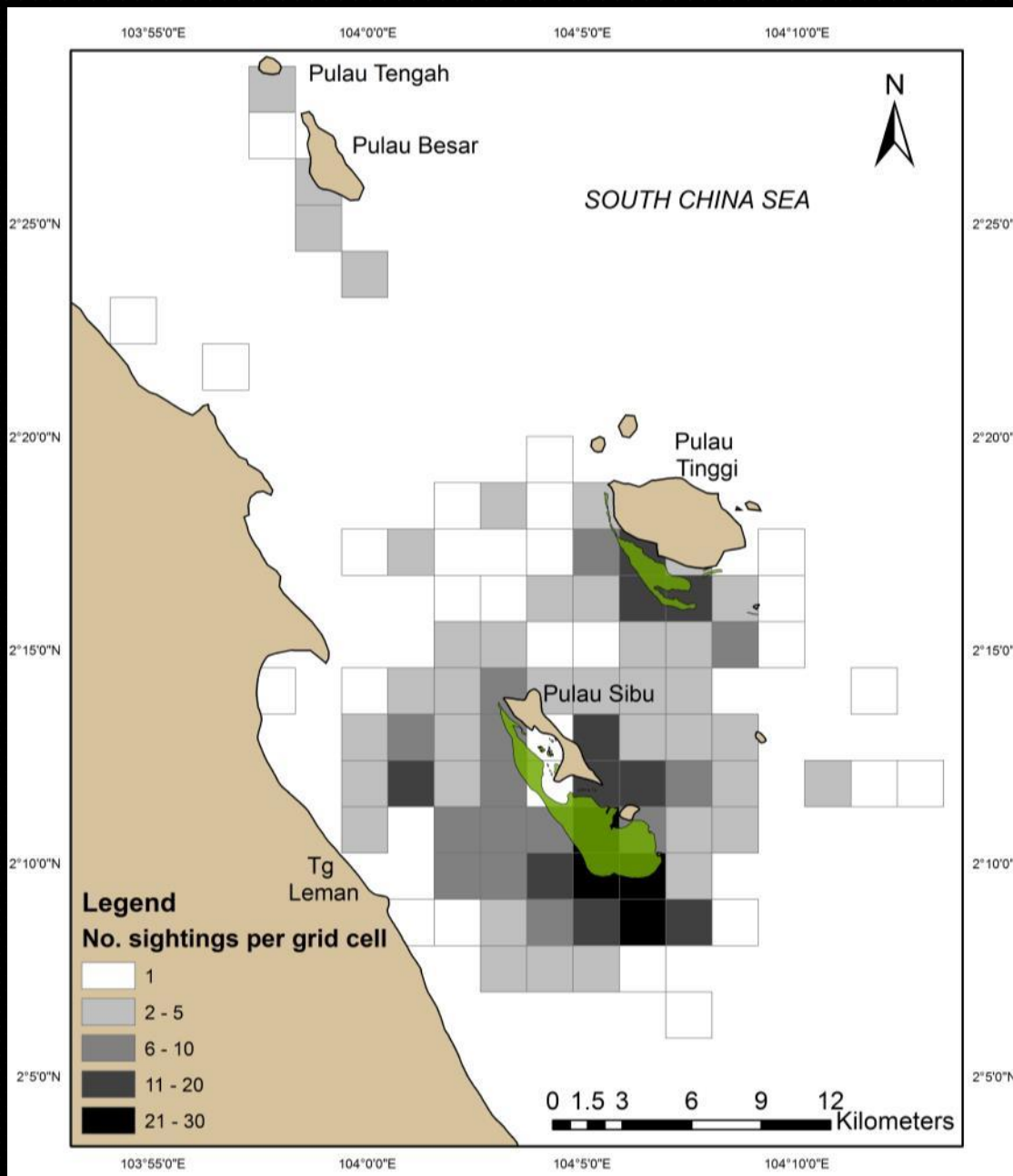
Dugong stranding @ Pulau Sibu – 16 Nov 2016



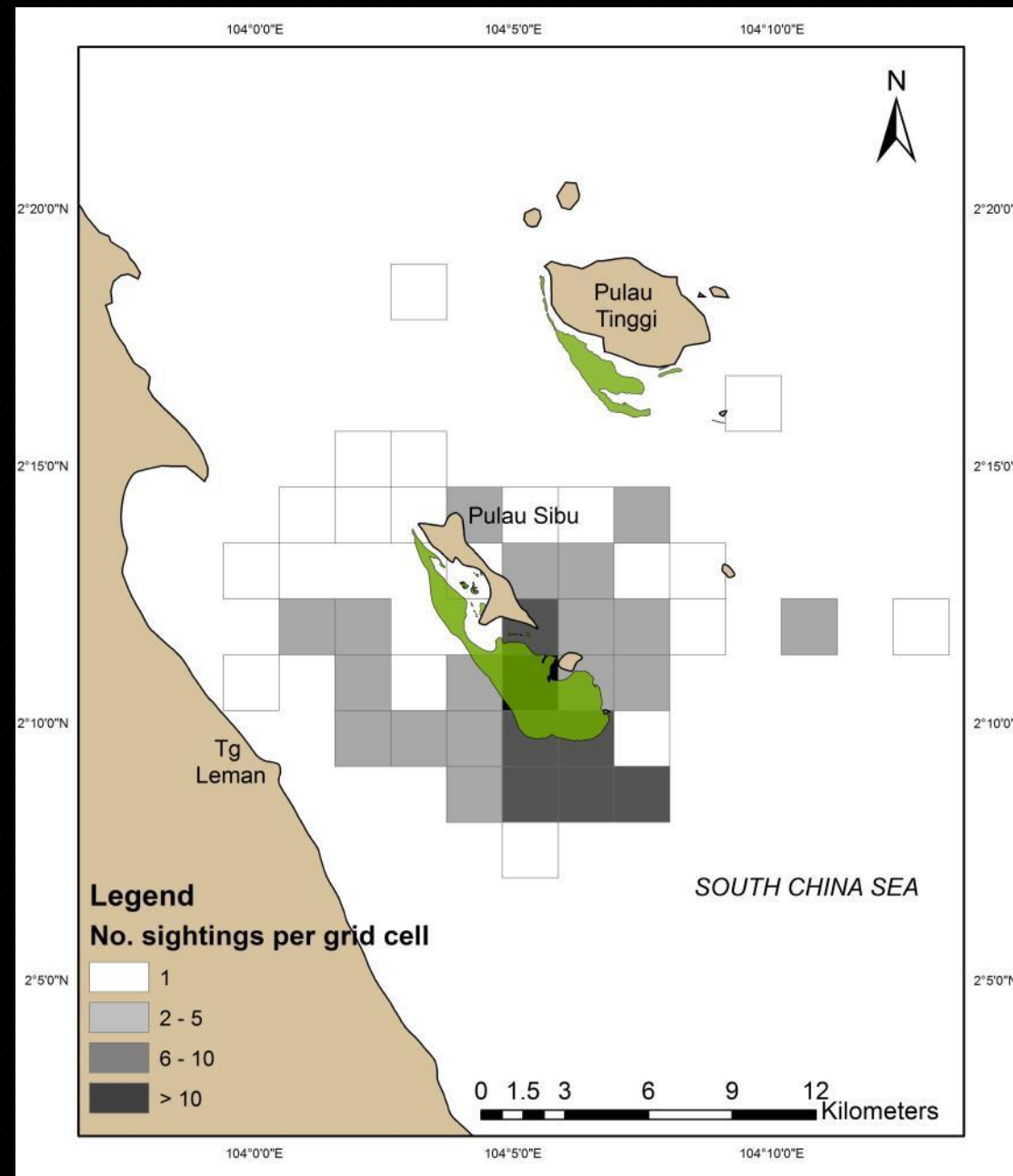
The dugong was suspected get caught in "Ghost Longline" aka Rawai Hantu which can see from the bruises.



Types of "Ghost Longline" aka Rawai Hantu found in Peninsular Malaysia are based on gears modification, but is consider illegal fishing gear in MPA areas.



All dugongs



Mom-calf pairs

Conservation challenges:

Last Frontier For Dugongs In Peninsular Malaysia

**The Islands' Unique Natural Heritage –
Seagrasses AND Dugong**



SPEECH
YAB DATO' MOHAMED KHALED NORDIN
MENTERI BESAR JOHOR
INTERNATIONAL CONFERENCE OF BIODIVERSITY 2015 &
22ND ANNIVERSARY OF
JOHOR NATIONAL PARKS CORPORATION
AT UTHM, BATU PAHAT, JOHOR
ON MONDAY, 16 NOVEMBER 2015
AT 8.00 PM

Ladies and Gentleman,

31. It is for all these reasons that Johor has embarked on our own sustainability roadmap via the JOHOR SUSTAINABILITY POLICY (DASAR KELESTARIAN JOHOR). We have seen the need for a robust policy that hinges on sustainable development. This policy directs the way to effectively manage natural resources and provide the required investment channels for the cause of environmental conservation.

32. Under this policy, a GREEN TECHNOLOGY AND CLIMATE CHANGE COUNCIL is set up to oversee the planning and implementation of relevant environmental initiatives.

33. This includes high profile projects such as the Low Carbon Society Plan, The Johor's Elephant Sanctuary and The Dugong Sanctuary.

34. Our approach to wildlife conservation is also inclusive. We believe in public participation for the better good. Therefore we will also establish a wildlife trust fund. This trust fund is a public effort to support all wildlife conservation efforts throughout the state of Johor.

Ladies and Gentleman,

35. Johor's identity is not pivoted only on modern development, but a balance of both world-modernity and nature peacefully combined. This is why the efforts put forth by

www.thestar.com.my/news/nation/2016/05/19/johor-seeks-best-way-to-protect-dugong/

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Thursday, 19 May 2016

Johor seeks best way to protect dugong

BY KATHLEEN ANN KILI

FACEBOOK TWITTER GOOGLE+ LINKEDIN

Popular Now in News

- Man dead, kids stuffed into containers
- Cousin of Garoth Bale's fiancée flees to Malaysia with millions
- Muhyiddin to be PM if Opposition wins GE14, says Dr M
- Family fears 'black magic' in-laws
- Woman flees with daughter without telling ex-husband

JOHOR BARU: The state government will leave it to the experts to come up with suitable suggestions on the best way to protect and conserve marine life, especially the endangered dugong.

Johor Health and Environment Committee chairman Datuk Ayub Rahmat said they were in talks with consultants on the setting up of a marine park near Mersing, which will include a dugong sanctuary.

"We will not rule out suggestions to use a tagging system to monitor the movement of dugong. We will also explore other experts' advice.

"We want to ensure that the method carried out to protect the sea mammal is the most suitable to avoid any future issues," he said.

Penampang MP refutes compensation claim
Woman gets stuck attempting to climb into brother's apartment

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Sunday, 15 May 2016

Johor allocates RM1mil to set up dugong sanctuary

FACEBOOK TWITTER GOOGLE+ LINKEDIN

Popular Now in News

- Muhyiddin to be PM if Opposition wins GE14, says Dr M

JOHOR BARU: The state government has allocated RM1mil to set up a dugong sanctuary along the eastern coastline of Johor.

HARI SUKAN NEGERA
08.10.2016
#GETYOURGAMEON

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The Daily Alert



PELAN
TINDAKAN PENGURUSAN DAN PEMULIHARAAN
DUGONG
MALAYSIA



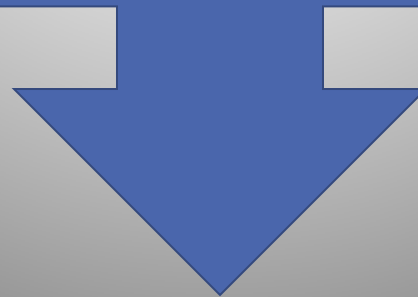
WITHIN THE DUGONG NATIONAL PLAN OF ACTION (DNPOA) PUBLISHED BY THE DEPARTMENT OF FISHERIES MALAYSIA IN 2011, **OBJECTIVE 3** (PROTECT, CONSERVE AND MANAGE THE HABITATS OF DUGONG), **ITEM 2** STATES THAT A **SUITABLE AREA FOR THE PROTECTION AND CONSERVATION OF DUGONGS AND THEIR SEAGRASS HABITAT NEEDS TO BE ESTABLISHED** (PAGE 33)

GUIDING PRINCIPLES

Protection and
Conservation of
Dugong Habitats

Enhancement of
Seagrass
Ecosystems

Management of
Human Activities and
Local Economic
Development

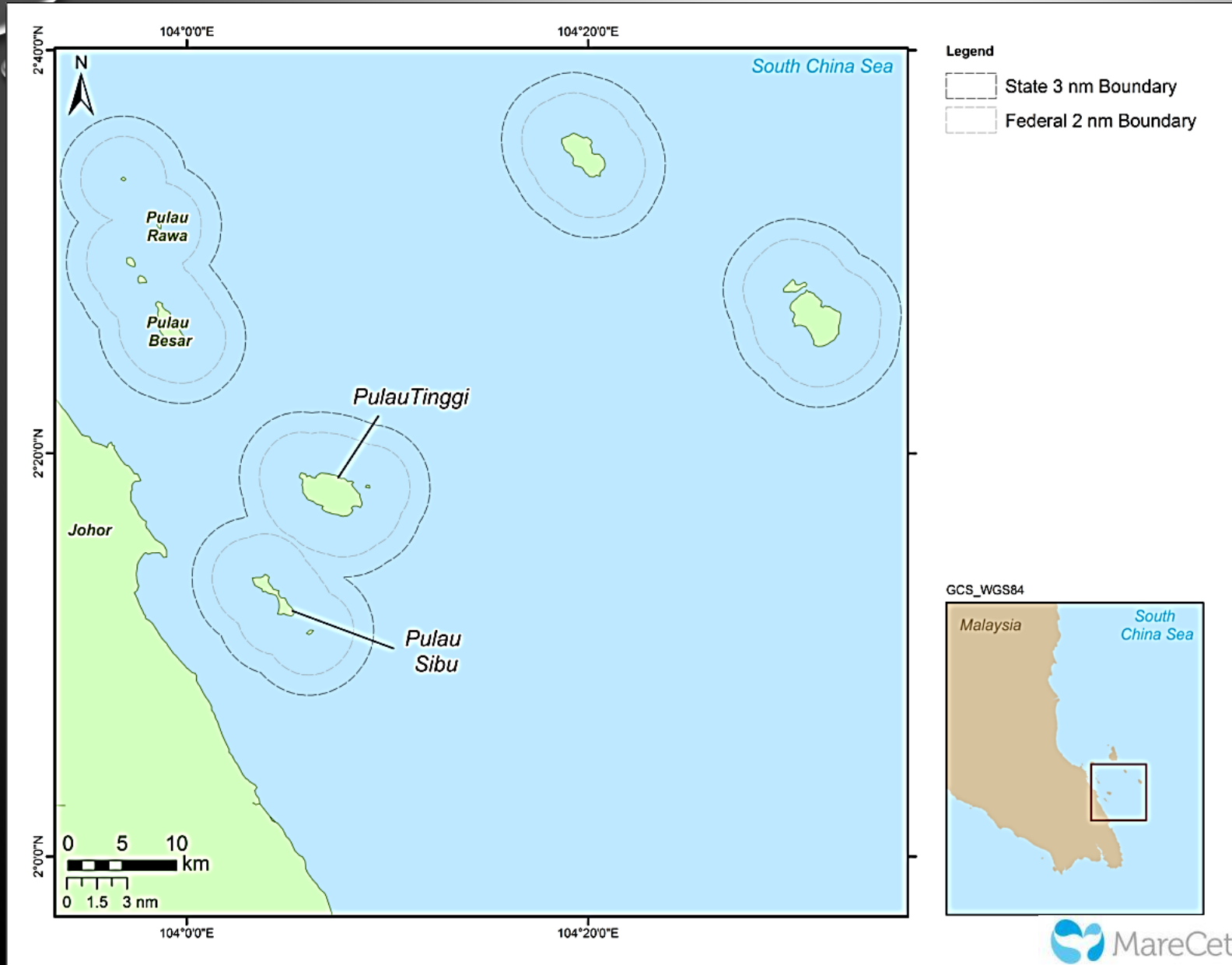


1st stage: DELINEATION AND SPATIAL PLAN

2nd stage: IMPLEMENTATION AND MANAGEMENT PLAN

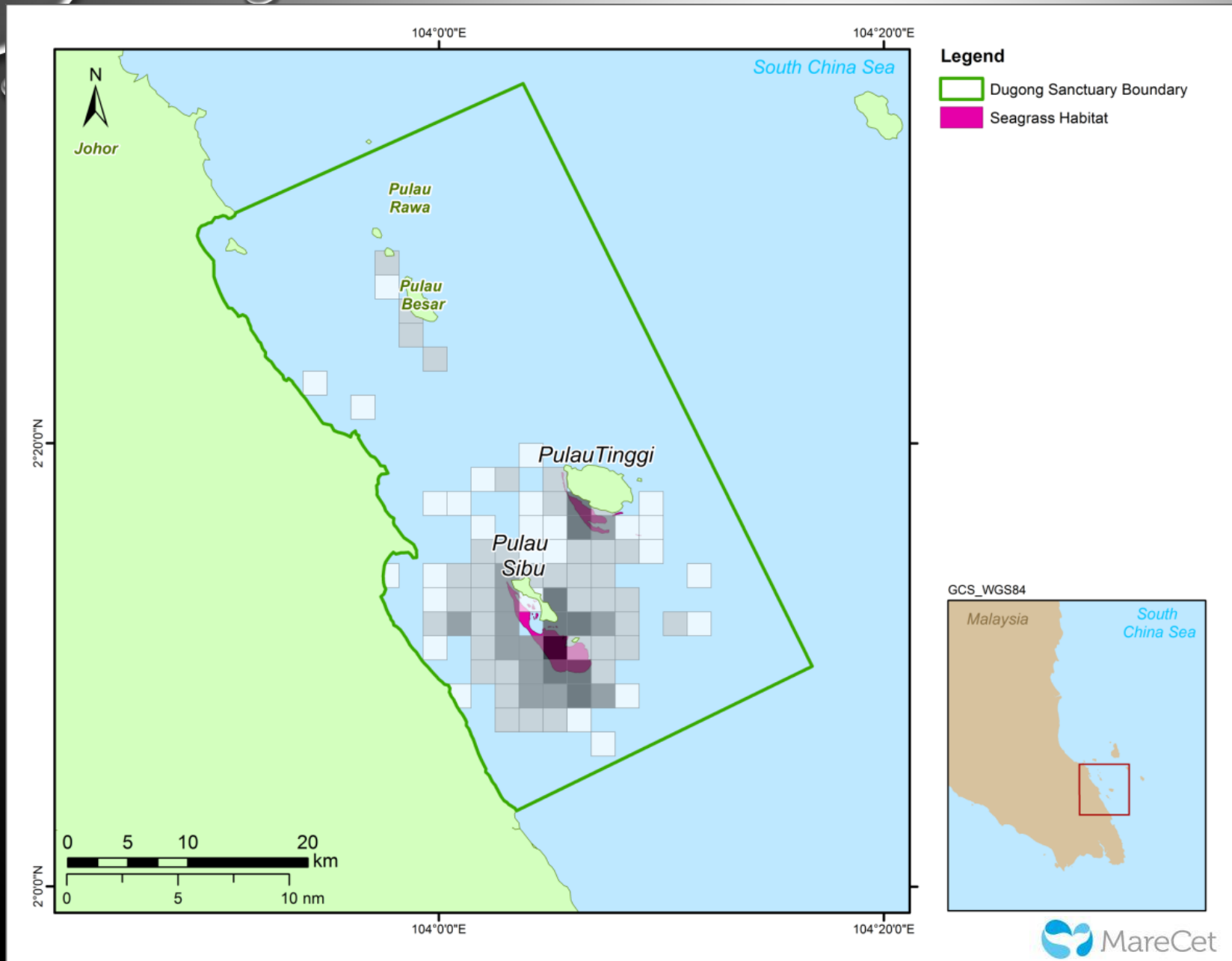
3rd stage: DUGONG SANCTUARY

Livelihood challenges: Current project area



Issue: Overlapping management authorities in the same area.

Livelihood challenges: Proposed Dugong Protected Area



Issue 2: Acceptance of local stakeholders to gazette bigger area for the proposed dugong protected area.

"I see there is a big difference for the facility and incentive given to commercial fishermen and artisanal fishermen.....The second issue is that **the bigger the Marine Parks expands, more restriction will happen on artisanal fishermen.**"
commented by
Anonymous No. 69

"It is good to have marine parks, but their **management was so unfair to the locals especially those lives nearby the island. I still think that other than caring for resources around, they should care for human as well.**"
commented by
Anonymous No. 59

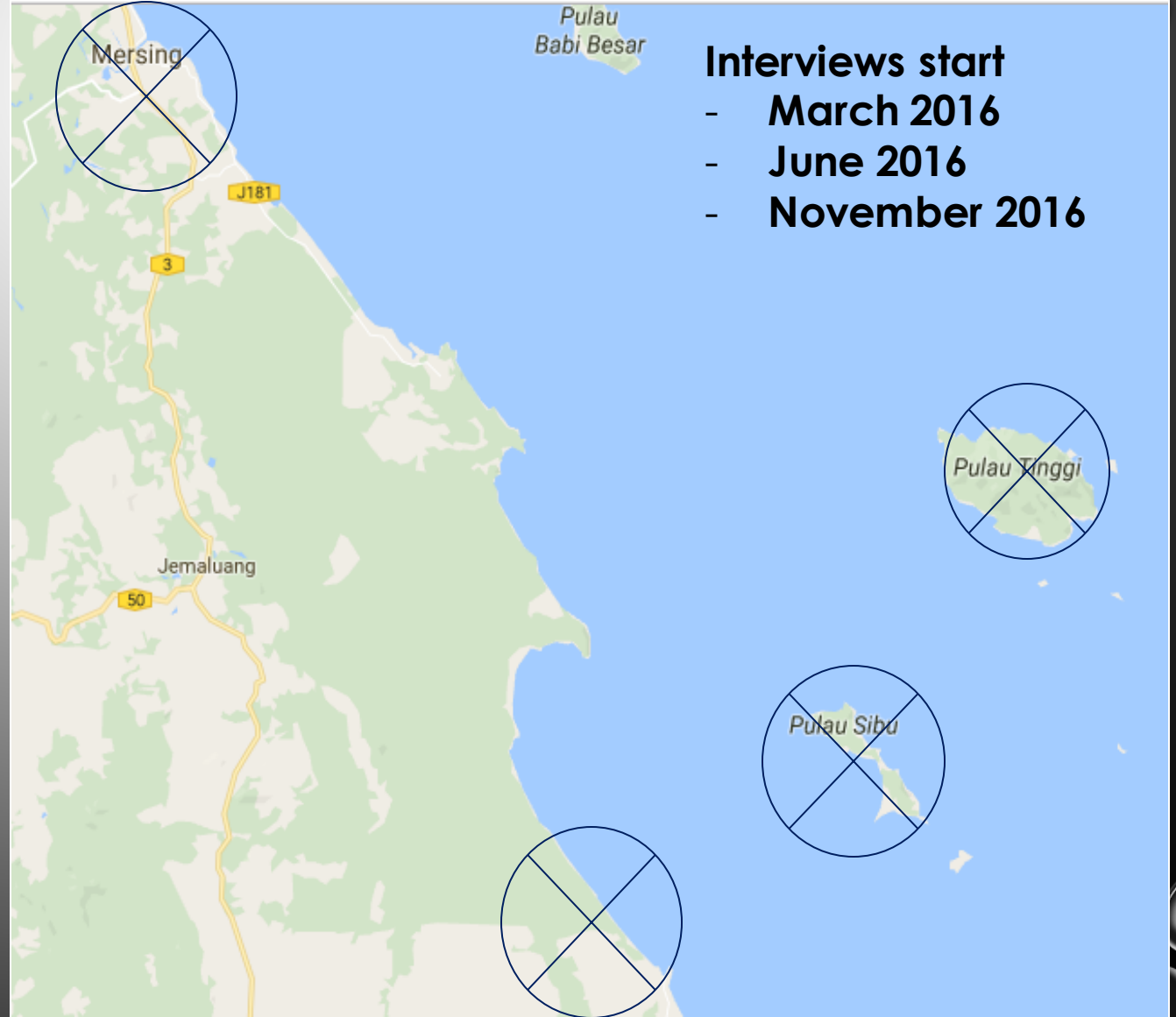
"I feel that **government now make locals confused about the boundary of current marine parks.** Some said is 2 nautical miles, but some said is 3 nautical miles."
commented by
Anonymous 32, 154,
246, 330,

Local stakeholders are concerned that the proposed dugong protected areas will be additional layer of space-based legislation in addition to existing Marine Park boundaries.

Study Objectives

- ✓ To identify **local communities' perception** towards conservation and management of the dugongs and seagrass protection in Mersing Archipelago, Johor.
- ✓ To **identify the factors that influencing their intention to participate** in dugong and seagrass conservation.
- ✓ To determine the **relationship between the local communities' attitudes and intention to participate** in the dugong and seagrass conservation.

Community Interviews



Study Methodology

Study Design	Method
Method	Quantitative Research (Pilcher & D. Kwan, 2012)
Sampling Technique	Quota and Purposive Sampling : Snowball technique (Bah, Diallo, Demb'el'e & Paulsen, 2006)
Sampling Population	Local community and stakeholders (fishers and resort operator and etc) Mersing mainland, Tanjung Leman and Sibutinggi Islands.
Instrument	Survey Questionnaire
Measurement	Categorical Data: Socio-demographic background Likert's type scale/ dichotomous question: Measurement variables (Theory of Planned Behaviour)
Tool	Statistical Package for Social Sciences (SPSS)

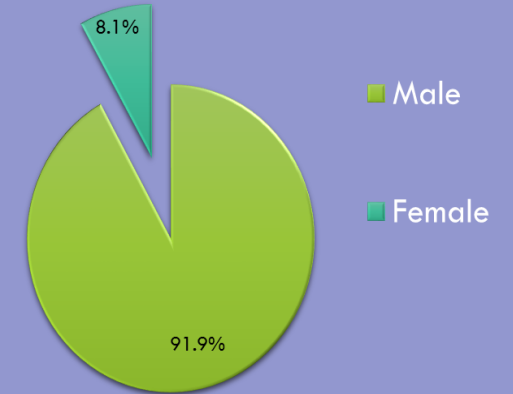
Local communities level of awareness towards dugong and seagrass

Item statements	Mean	Percentage (%)		
		Disagree	Uncertain	Agree
1) Dugong is found in Johor waters.	3.79	15.9	11.8	72.3
2) Dugong foraging/feeding areas will change over time.	3.32	22.1	28.4	49.4
3) Seagrass is the primary food source for dugongs.	3.40	24.0	26.2	49.8
4) Currently, there are too many dugongs stranded in Johor.	2.89	37.6	32.8	29.5
5) Dugong is a mammal that lives long.	3.75	12.9	25.8	61.3
6) There are laws protecting dugong in Johor.	3.79	12.9	21.4	65.7
7) There are laws protecting marine mammals in Johor.	3.88	12.2	18.5	69.4
8) Dugong is categorized as a vulnerable species under Fisheries Act 1985.	3.69	13.7	26.6	59.8
9) The number of dugong in Johor waters has decreased gradually.	3.17	20.3	48.7	31.0

Note: Mean was calculate based on responses: 1- Strongly Disagree (S.D.); 2- Disagree (D); 3- Uncertain (U); 4- Agree (A); 5- Strongly Agree (S.A.).

Percentage was calculated based on responses that are recorded as Agree = combination of "Agree" and "Strongly Agree"; Uncertain = "uncertain"; Disagree = combination of "Strongly Disagree" and "Disagree".

Profile of the respondent (%)



Total respondent (N) = 347

Mean score for respondents' awareness level towards seagrass and dugong was **moderate** (M= 3.52; SD=0.70).

Perceptions of local communities towards seagrass and dugong conservation

SOCIO-ECONOMICS

Majority respondent agree that:

“Seagrass meadows can provide healthy habitat for fish stock and marine life.” (M=3.66)

“The existence of dugong can attract tourist through community-based tourism.” (M=3.82)

Also, *“Dugong should be the flagship species for marine conservation in Johor.” (M=3.85)*

But, they do not agree that

“MPAs can generate opportunities for local employment.” (M=3.09)

ECOLOGICAL

Besides, they agree

“Destructive fishing methods (trawler) are primary threats that cause seagrass habitat degradation” (M=3.97)

Second follow by *“Acoustic disturbance such as boat traffic will disturb dugongs when they are feeding.” (M=3.26)*

Thus, they believed

“It is the responsibility of local people to protect surrounding natural resources.” (M=3.84)

GOVERNANCE

Respondents understand that

“Dugongs are worth saving despite the need for more regulations.” (M=3.67)

“It is illegal to catch a dugong intentionally.” (M=3.95)

“The existing rules and regulations from marine parks are adequate to protect dugongs in Johor waters.” (M=3.81)

But, they also claimed that

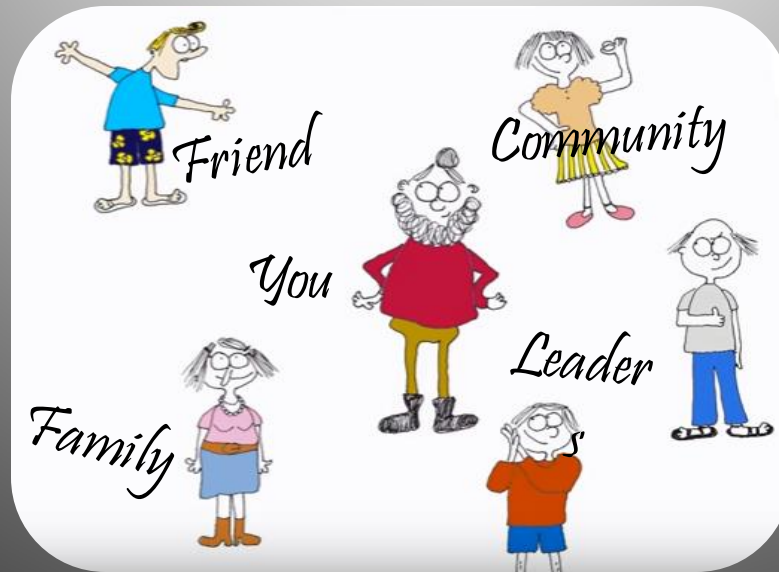
“The community is helpless in protecting the environment.” (M=3.48)

The attitudes of local stakeholder

Attitude
(Will this be beneficial for me to engage?)



Subjective Norm
(Who will influence my decision?)

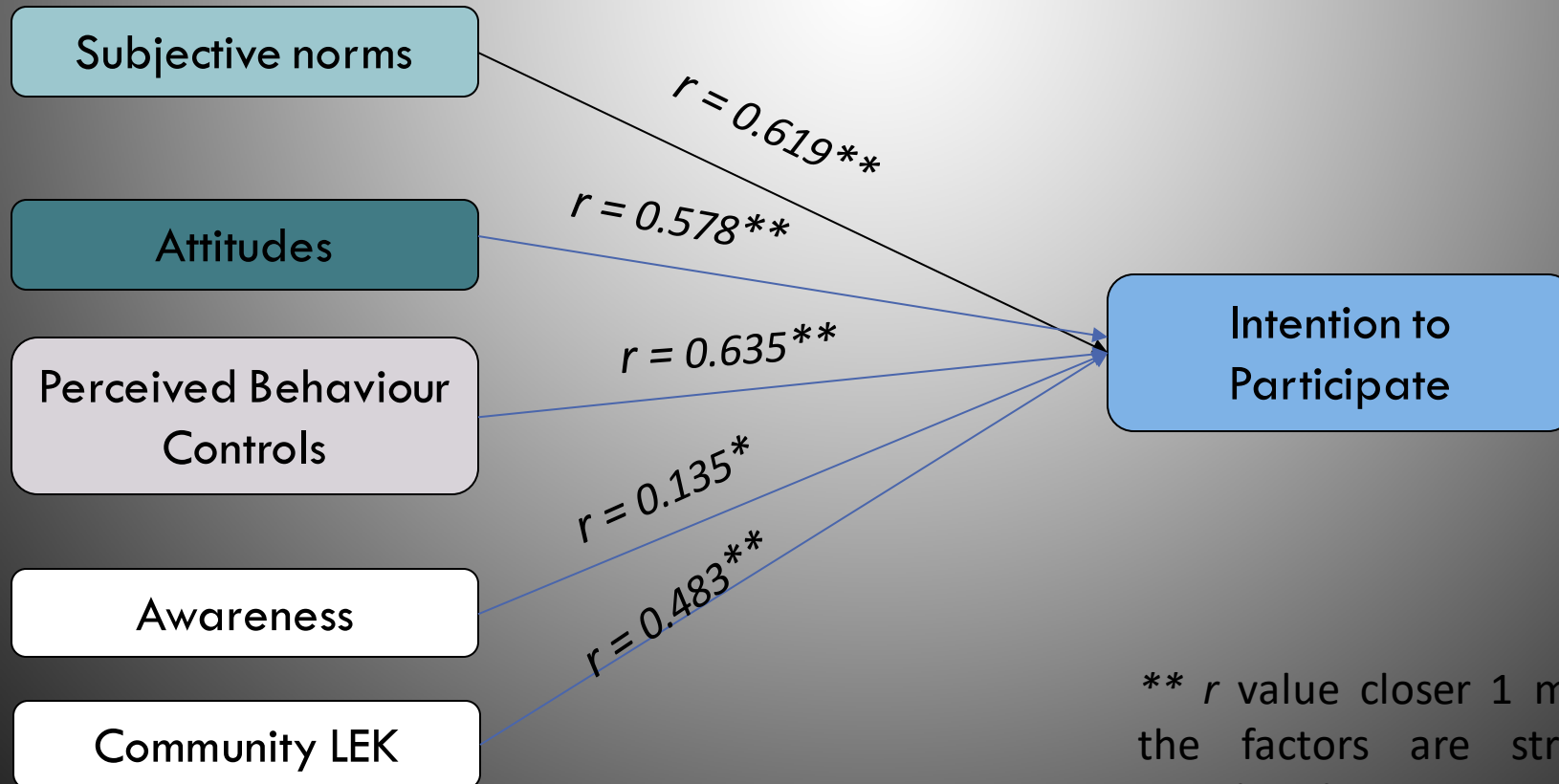


Perceived behavioral Control
(Self-capacity to engage)



Adapted from TPB Theory Construct to apply on Local Communities Intention to Participate in Dugong Habitats Conservation

The relationships of attitudes towards intention to participate



** r value closer 1 means the factors are strongly correlated.

relationship between the local communities' attitudes and intention to participate in the dugong and seagrass conservation.

Results

Intention to participate = (-0.986) + 0.272 SN + 0.309 PCB + 0.220 ATT + 0.362 Perception + 0.046 (Awareness)

R square = 0.535

F-value = (5, 265) = 61.094

Sig. = 0.000

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.		
	B	Std. Error	Beta				
1	(Constant)	-.986	.326			-3.022	.003
	MeanSN	.272	.053	.286		5.098	.000
	MeanPCB	.309	.071	.273		4.355	.000
	MeanATT	.220	.083	.156		2.651	.008
	MeanPerception	.362	.095	.185		3.793	.000
	MeanAwareness	.046	.052	.038		.881	.379

a. Dependent Variable: MeanIntention

P-value < 0.05 (Confidence level of 95% - Significant at the 10 % level)

t-value > 1.96

Communities initiatives

Self-capacities to perform activity related to dugong conservation turned out to be the **most important explanatory factor** followed by their perceptions and social influences. Whereas the attitude factor exerted the smallest influence on their intention.



Face to face interviews with local stakeholders and fishermen.

Communities initiatives



Local community workshop at the first stage on the Dugong Protected Areas Delineation discussion.

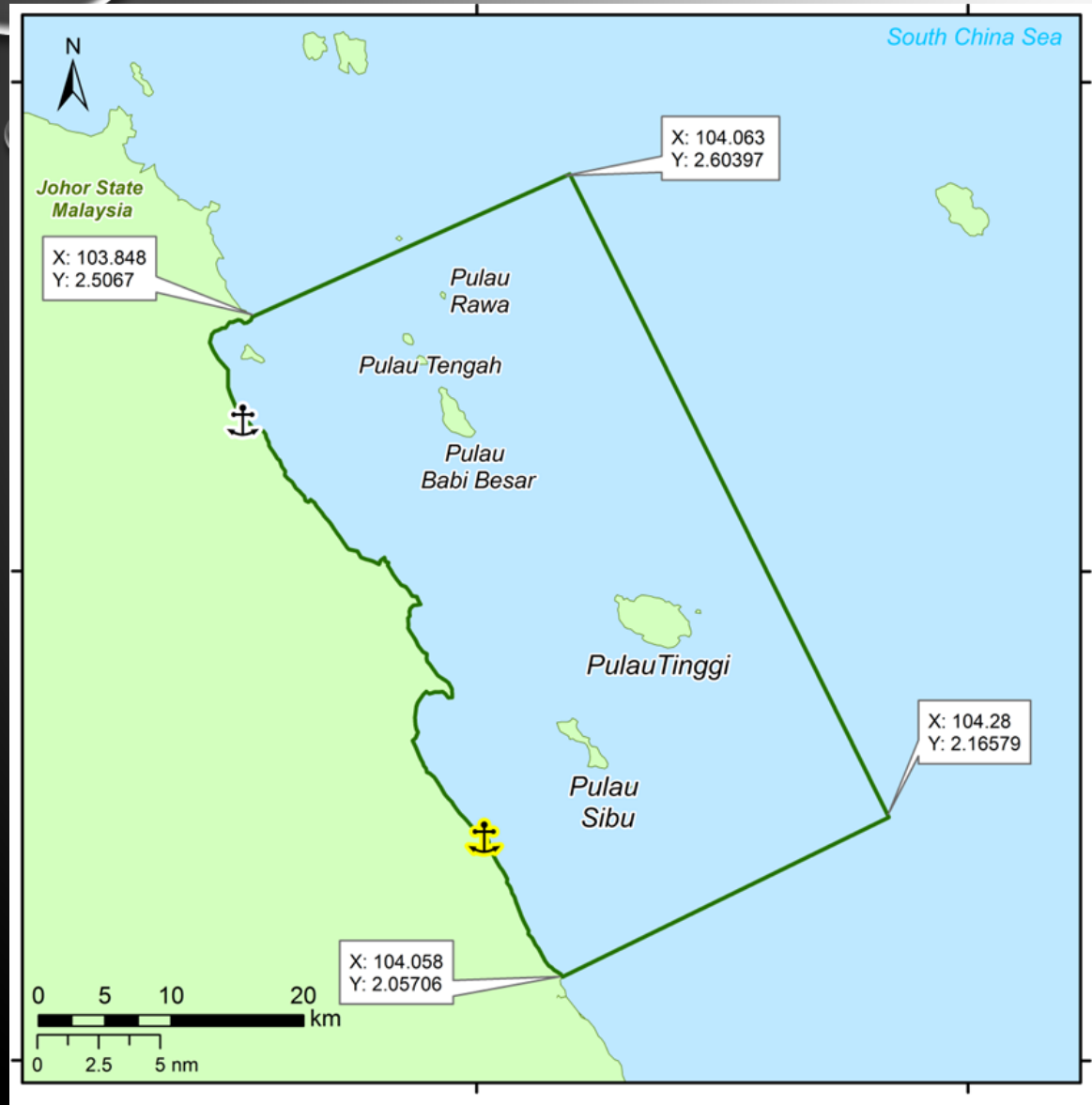


Reported dead dugong by local at Tanjung Logok, Johor, Malaysia



Mini dugong gallery in school

Practical approach : Proposed Dugong Protected Area



The launch of the dugong sanctuary project by the Majesty of Johor Sultan Ibrahim Ibni Almarhum Sultan Iskandar on 22th August, 2016.



Continuous local community workshop on the Dugong Protected Areas Management Plan for locals' suggestion and recommendation.



Monthly marine education programmes by local NGO and researchers.



Beach clean-up with school kids and Marine Parks officer.



Seminar Invitation to local representatives on the oral presentation about their livelihoods.



Women livelihood development workshop to assist to build better future and hopefully encourage them to be stewards of their environment



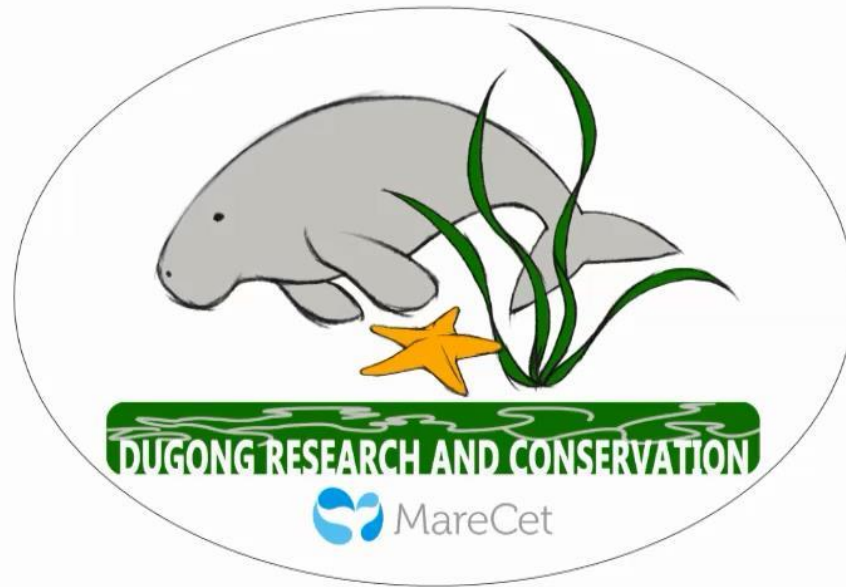
Sibu Island Edu-tour hosted by MareCet Research Organization together with local communities as local guides



Recommendation

- **Provision of tangible benefits** such as the improvement of local facilities and creation of alternative livelihood programmes enable local villagers to integrate into the new protected area's management planning.
- **Cooperation of multiple parties at multiple levels** is the best approach for the implementation of co-management plan.





Partnered by:



Special thanks to:



Dugong Research and Conservation | MareCet 2016



MareCet @ Kembara Jelajah Mahkota Johor 2016



Dugong Research and Conservation | MareCet 2016



THANK YOU

